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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/556,821	04/21/2000	Yukio Sugita	Q58959	6402

7590 02/04/2003

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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 02/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/556,821

Applicant(s)

SUGITA, YUKIO

Examiner

Qutub Ghulamali

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 April 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-4, 6, 11-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagano et al. Nagano et al teach (col. 3, lines 33-54), a pulse-width modulation device including a clock generation device; which generates a plurality of clock signals whose phase is different than a phase of the first (pre-delay clock signals), and makes the pulse (col. 1, lines 49-57) rise in synchronism with the fundamental (first) clock signal and fall (level) synchronously with the remaining one of the first signal, a counter that start counting in synchronism with the clock signal, and plurality of delay devices (col. 4, lines 34-35) which delays the clock signal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nagano et al (US Patent No. 5,963,107) in view of Aoki (US Patent No. 6,011,533).

As applied to claims 1-4, 6, 11-20 above, Nagano et al teaches every feature of the claimed invention, but does not explicitly teach operation device is an inverting device that inverts a first clock signal and generates a second clock signal. In the same field of endeavor, Aoki teaches (fig. 7A), a first clock signal CLX1 and a second to fourth clock signals generated from respective clock signals a second clock signal.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nagano et al to include a clock inverting circuit so as to allow the operation of the PWM device to output the data signal as taught by Aoki, see col. 11, lines 11-13 and col. 21, lines 19-20.

5. Similarly, with reference to claim 7-10 Nagano et al teaches every feature of the claimed invention 1-4, 6 above, but does not explicitly teach a light source for exposure which emits light in accordance with a pulse width of respective pulses. In the same field of endeavor, Woodworth teaches a laser light source generate a stream of pulses synchronized with the pulse width modulating signal, see col. 6, lines 31-44 and col. 9, lines 3-4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nagano et al to include light source so as to allow the operation of the PWM device in the environment of optical transmission as taught by Woodworth.

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Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutub Ghulamali whose telephone number is (703) 305-7868. The examiner can normally be reached during normal business days from Monday-Friday between 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-3988 for regular communications and 703 305-3988 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-4750.

QG
January 30, 2003


DON N. VO
PRIMARY EXAMINER